

Kirk R. Smith

Professor of Global Environmental Health, Director of the Global Health and Environment Program
School of Public Health, University of California, Berkeley, CA

Visiting Professor
Post-Graduate Institute of Medical Education and Research
Chandigarh, India



Prof. Smith is Professor of Global Environmental Health and is also founder and coordinator of the campus-wide Masters Program in [Global Health and Environment](#). Previously, he was founder and head of the Energy Program of the East-West Center in Honolulu, where he still holds appointment as Adjunct senior Fellow in Environment and Health after moving to Berkeley in 1995. He serves on a number of national and international scientific advisory committees including the Global Energy Assessment, National Research Councils Board on Atmospheric Science and Climate, the Executive Committee for WHO Air Quality Guidelines, and the International Comparative Risk Assessment. He participated along with many other scientists in the IPCC's 3rd and 4th assessments and thus shared the 1997 Nobel Peace Prize. He holds visiting professorships in India and China and bachelors, masters, and doctoral degrees from UC Berkeley and in 1997, was elected member in the US National Academy of Sciences, one of the highest honors awarded to US Scientists by their peers. In 2009, he received the Heinz Prize in Environment.

Research interests - Prof. Smith's research focuses on environmental and health issues in developing countries, particularly those related to health-damaging and climate-changing air pollution from household energy use, and includes field measurement and health-effects studies in India, China, Nepal, Mexico, and [Guatemala](#) as well as development and application of tools for international policy assessments. He also develops and deploys small, smart, and cheap microchip-based monitors for use in these settings.

Achievements - Prof. Smith has demonstrated that the highest exposures to air pollutants occur in rural, indoor settings in developing countries where biomass and coal are the principal fuels. He has documented the associated risk for pneumonia and adverse birth outcomes in children and cataracts, tuberculosis, heart disease, and chronic lung disease in women as well as developed a range of small, smart, cheap microchip-based devices for field measurements. Since half the world's population uses these fuels, the total health impacts of this exposure are estimated to be larger than any other environmental risk except contaminated water supplies. He has also shown that renewable biomass fuel cycles are not greenhouse-gas neutral by conducting extensive measurements in India and China. He also created the concept of natural debt (net result of polluting our planet faster than natural processes can dissipate the damage) and applied it to international greenhouse-gas negotiations. This enables countries to negotiate how much responsibility each has for cleaning up the environment based upon relative contributions in the past and present. Finally, he created the concept of risk transition to complement traditional epidemiologic and demographic transitions models. He is author or co-author on several hundred publications.

Two NGOs run by former students have spun off from Prof. Smith's research group: Impact Carbon, which develops improved stove programs for the international carbon market, and Berkeley Air Monitoring Group, which conducts independent monitoring and evaluation of household energy programs around the world.

Education

Ph.D. Biomedical and Environmental Health: Energy & Environment (1977), University of California Berkeley

M.P.H. Environmental Health Sciences (1972), University of California Berkeley

B.A. Physical Sciences: Physics and Astronomy (1968), University of California Berkeley

